

AMSAT News Service Weekly Bulletins

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AMSAT NEWS SERVICE

ANS-234

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on <http://www.amsat.org> publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor [at] amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:  
<https://mailman.amsat.org/postorius/lists/ans.amsat.org/>

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ANS-234 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS

From: Radio Amateur Satellite Corporation  
712 H Street NE, Suite 1653  
Washington, DC 20002

DATE 2021 Aug 22

Contacts Completed Successfully Through AO-109

Several amateurs have reported successful operation through the AO-109 satellite, even though the satellite's power output has been determined to be less than 10 milliwatts.

Carlos Cardon, W7QL in DN40, completed a contact with Dave Beumer, W0DHB in DN70, on August 12 using FT4. They repeated with additional QSOs on August 15 and 18. Also on August 15, W7QL completed a contact with Alan Bowker, WA6DNR in CM87 using FT4. Further, W0DHB and Mark Johns, K0JM in EN35, completed an FT4 QSO through the satellite on August 18, and repeated with a second QSO on August 19.

Carlos noted, "Based upon our testing the past couple of days, I think FT4 QSOs should be consistently achievable on this satellite."

These contacts have been an extension of digital mode experiments via satellite involving a larger number of stations, as reported earlier and in greater detail in the May/June 2020 issue of The AMSAT Journal.

The stations involved have been fairly typical satellite setups without exotic additions. W7QL reports "using my IC-9700 (in Data mode, full power) and LEO-Pack antenna, with SatPC32 and WSJT-X." W0DHB, WA6DNR, and K0JM are using FlexRadio transceivers with transverters.

All report using 75-100 watts of transmit power to get signals through AO-109, although care is taken to reduce power to 1 or 2 watts when using digital modes on other linear satellites, such as RS-44. While FT4 activity is generally at the low end of the downlink passband on other linear satellites (5 kHz above the bottom passband limit), activity on AO-109 has been on a downlink frequency of 435.770 (5 kHz below transponder center).

Several other stations have reported experimenting with CW on AO-109. Take Tone, JK2XXK in PM85, completed a CW QSO with Tetsuro Satou, JA0CAW in PM97, on May 1, and other contacts among Japanese amateurs have followed. John Papay, K8YSE, Doug Tabor, N6UA, and Burns Fisher, WB1FJ, in addition to W7QL and W0DHB, have reported hearing or experimenting with CW on the bird in North America. K8YSE in EN91 and Stephan Greene, KS1G in FM18, reported a completed CW QSO on August 21.

Mark Hammond, N8MH, AMSAT Director and Command Station, has also been paying close attention to AO-109 signals. He notes, "All you need is to use AF from the built in sound cards of the 9700, directly into WSJT-X, over USB cable. Then, have the radio use USB-D and LSB-D modes. It will probably give you a little better signal to noise I think? Seeing 3 kHz of the transponder downlink is plenty. Doppler correction is important, especially around TCA. Tell SatPC32 under the CAT tab to do Intervals of "0 Hz" for SSB/CW and use a Speed of x5."

[ANS thanks Carlos Cardon, W7QL, for the above information]

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Join the 2021 President's Club!

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Full Color Certificate and Embroidered "Remove Before Flight" Key Tag

Donate today at

<https://www.amsat.org/join-the-amsat-presidents-club/>

You won't want to miss it!

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#### Registration Now Open for AMSAT Space Symposium

The 39th AMSAT Space Symposium and Annual General Meeting will be held Friday through Sunday, October 29-31, 2021, at the Crowne Plaza AiRE in Bloomington, Minnesota.

Registration is now open for the event at <https://launch.amsat.org/Events> Student registrations are available at \$40, and General registration is at \$75. Registration for the Saturday evening Symposium Banquet is an additional \$55. Full details are available at the registration website.

The Crowne Plaza AiRE is located at 3 Appletree Square, Bloomington, MN 55245, adjacent to the Minneapolis-St. Paul International Airport and only steps away from the METRO Blue Line's American Blvd. stop. Nearby shopping and tourist attractions include Mall of America, SEA LIFE at Mall of America, Nickelodeon Universe, and the Minnesota Zoo.

The Symposium includes presentations, exhibit space, and the AMSAT Annual General Meeting. The preliminary schedule is presented at

<https://launch.amsat.org/event-4414716>

The AMSAT Board of Directors Meeting will be held before the Symposium, October 28-29, at the same hotel.

Those attending may make hotel reservations by calling the hotel directly at (952) 854-9000 or (877) 424-4188 (toll free) or online by visiting [crowneplazaaire.com](http://crowneplazaaire.com). The group name is Amateur Satellite Group.

Platinum and Titanium members of the AMSAT President's Club receive free admission to the Symposium and receive a complimentary lunch with the President on Saturday afternoon. Please email [members\(a\)amsat.org](mailto:members(a)amsat.org) to arrange registration.

Presenters are invited to participate at the Symposium and/or submit a paper to the Symposium Proceedings. Read the Call for Papers at <https://www.amsat.org/2021-amsat-symposium-proceedings-call-for-papers/> for more information.

[ANS thanks AMSAT for the above information]

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Need new satellite antennas? Purchase Arrows, Alaskan Arrows, and M2 LEO-Packs from the AMSAT Store. When you purchase through AMSAT, a portion of the proceeds goes towards Keeping Amateur Radio in Space.  
<https://amsat.org/product-category/hardware/>

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#### 2021 AMSAT Board of Directors Election Being Held

The nomination period for the 2021 Board of Directors Election ended on June 15, 2021. The following candidates have been duly nominated and their candidate statements can be found at link that follows:

Joseph Armbruster, KJ4JI0  
Robert Bankston, KE4AL  
Jerry Buxton, N0JY  
Zach Metzinger, N0ZG0

In accordance with our Bylaws, AMSAT must hold an election, even though we have four nominations for four open Director positions. As such, we will host electronic voting on our Member Portal this year, at no cost to the organization. Voting is now open and will close on September 15, 2021.

When members click on the poll link, they will see their ballot (poll question). After choosing from the possible options, click the Submit button to cast your vote. Unlike many online polls, the results of all votes cast, up to the point of your vote, will not be displayed. AMSAT members can only vote once. If you click the poll link again after already voting, a vote submitted message will be displayed. As four seats on the Board of Directors are up for election this year, all four candidates will be seated on the Board when the voting period concludes on September 15, 2021.

To read candidate biographies see:  
<https://launch.amsat.org/2021-BoD-Election>

AMSAT members may access their ballots at:  
<https://launch.amsat.org/Sys/Poll/25943>

[ANS thanks Jeff Davis, KE9V, AMSAT Secretary, for the above information]

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AMSAT's GOLF Program is about getting back to higher orbits, and it all begins with GOLF-TEE – a technology demonstrator for deployable solar panels, propulsion, and attitude control, now manifested for launch on NASA's ELaNa 46 mission. Come along for the ride. The journey will be worth it!

<https://tinyurl.com/ANS-GOLF>

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#### AMSAT Awards Update

Here are the latest award updates for the first half of the year, plus a bit.

#### AMSAT Satellite Communicators Award for making their first satellite QSO

John Wedge, VA6WEG  
Brandon Coon, KI5MJH  
Davy Jacobs, ON8ZJ  
Ryan Frederick, K7NZE  
Peter Spinelli, N4Y0T  
John Hutchison, KI5NYZ  
Allen Beard, K4WSD  
David Johnston, WD6AOE

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#### AMSAT Communications Achievement Award

Martin Schuette, N9EAT, #633  
Stephen DeVience, N8URE, #634  
Dave Lane, KB0RFY, #635  
Allen Beard, K4WSD, #636  
Wes Baden, NA1ME, #637  
Thomas Talley, K0CFI, #638

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#### AMSAT Sexagesimal Satellite Communications Achievement Award

Martin Schuette, N9EAT, #190  
Stephen DeVience, N8URE, #191  
Wes Baden, NA1ME, #192

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#### AMSAT Century Award

Martin Schuette, N9EAT, #57  
Wes Baden, NA1ME, #58

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#### AMSAT South Africa Satellite Communications Achievement Award

Martin Schuette, N9EAT, #US236  
Stephen DeVience, N8URE, #US237  
Dave Lane, KB0RFY, #US238  
Allen Beard, K4WSD, #US239  
Wes Baden, NA1ME, #US240  
Thomas Talley, K0CFI, #US241

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AMSAT Robert W. Barbee Jr., W4AMI Award (1,000-4,000)

Ken Bodholt, KI7UXT #US104 upgraded to 4,000  
Bernd Scholer, DL6IAN #US116 upgraded to 3,000  
Michael Mark, VE4MM, #117 upgraded to 2,000  
Stephen DeVience, N8URE, #US118  
Larry Callahan, KF6J0Q, #US119

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AMSAT Rover Award

| Rover | Call    |
|-------|---------|
| #57   | ND9M/MM |
| #58   | LA9XGA  |
| #59   | WI7P    |
| #60   | KF6J0Q  |

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GridMaster Award

| GridMaster | Call    |
|------------|---------|
| #27        | W9TWJ   |
| #28        | W5RKN   |
| #29        | KI7UXT  |
| #30        | K8YSE/7 |
| #31        | KB6LTY  |
| #32        | KC9ELU  |

To see all the awards visit <http://www.amsat.org> and click on Services then Awards.

[ANS thanks Bruce Paige, KK5D0, AMSAT Director Contests and Awards, for the above information]

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Want to fly the colors on your own grid expedition?  
Get your AMSAT car flag and other neat stuff  
from our Zazzle store!  
25% of the purchase price of each product goes  
towards Keeping Amateur Radio in Space  
[https://www.zazzle.com/amsat\\_gear](https://www.zazzle.com/amsat_gear)

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ARISS NEWS

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

The next scheduled contact is with Carl Fuhlrott-Gymnasium, Wuppertal, Germany, direct via DN1CFG. The ISS callsign is presently scheduled to be OR4ISS. The scheduled astronaut is Akihiko Hoshide, KE5DNI. The contact is go for: Monday, 2021-08-23 07:54:53 UTC, 81 degrees maximum elevation over

Germany.

The ARISS station is currently supporting packet operation (145.825 MHz up & down). Next mode change is to cross band repeater after the school contact on Aug 23 (after 08:05 UTC). The station will power down for upcoming U.S. EVA [spacewalk] on August 24. Shutdown scheduled for about 19:00 UTC Aug 23. Power up scheduled for 07:45 UTC Aug 25.

The latest information on the operation mode can be found at  
<https://www.ariss.org/current-status-of-iss-stations.html>

The latest list of frequencies in use can be found at  
<https://www.ariss.org/contact-the-iss.html>

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

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AMSAT, along with our ARISS partners, is developing an Amateur Radio package, including two-way communication capability, to be carried on-board Gateway in lunar orbit.

Support AMSAT's projects today at <https://www.amsat.org/donate/>

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#### Upcoming Satellite Operations

WL7T will be putting a number of Alaska grids on the air, August 21-27:  
BP44, BP45, BP46, BP47, BP54, BP55, BP57, BP58, BP59, BP64, BP65, BP75, BP84, BP85

VE7KPM: CN78, upcoming. 9/2 approx.

[ANS thanks Paul Overn, KE0PBR, AMSAT rover page manager, for the above information]

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#### Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

Ambassador Clint Bradford, K6LCS, has online presentations scheduled for the following clubs:

Sonoma (CA) ARC  
STARS - Easy Coast  
Fairlawn NJ  
Portland OR  
Longmont CO  
SW Florida

Contact Clint at <http://www.work-sat.com> or by phone at 909-999-SATS (7287) to arrange a presentation.

The 2021 HamXposition is taking place September the 11th and 12th, in Marlborough, Massachusetts. The convention has a new home at the Best Western Royal Plaza Hotel & Trade Center. If you would like to volunteer at the booth contact Phil Smith wleme at [amsat.org](http://amsat.org).

REGISTRATION IS NOW OPEN for the 39th AMSAT Space Symposium and Annual General Meeting

October 29-31, 2021

Crowne Plaza AiRE

3 Appletree Square, Bloomington, MN 55245.

Complete information and registration at [tinyurl.com/ANS-227-SYMPOSIUM](https://tinyurl.com/ANS-227-SYMPOSIUM).

[ANS thanks Paul Overn, KE0PBR, AMSAT Events page manager, for the above information]

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Satellite Shorts From All Over

+ The previously announced schedule of FCC amateur radio application fees likely will not go into effect before 2022. FCC staff confirmed during a recent virtual meeting with Volunteer Examiner Coordinators (VECs) that the agency is still working on the necessary changes to the Universal Licensing System (ULS) software and other processes and procedures that must be in place before it starts collecting fees from amateur applicants. Once it's effective, a \$35 application fee will apply to new, modification (upgrade and sequential call sign change), renewal, and vanity call sign applications. (ANS thanks ARRL for the above information.)

+ AMSAT-DL reports the antenna used by DP0GVN in Antarctica for the QO-100 geostationary satellite amateur radio transponder is completely destroyed. According to the Alfred-Wegener-Institute (AWI), a severe winter storm hit Atka Bay (Antarctica) at the end of last week. Unfortunately, the satellite antenna for the geostationary QO-100 amateur radio satellite was also completely destroyed during the storm, despite the weatherproof radome, so no school contacts with DP0GVN can take place until further notice. AMSAT-DL and AWI hope to erect a new antenna early next year, in particular to continue the very successful contacts with schools. (ANS thanks AMSAT-UK and AMSAT-DL for the above information.)

+ NASA astronaut Mark Vande Hei, KG5GNP, and astronaut Akihiko Hoshide, KE5DNI, of the Japan Aerospace Exploration Agency will venture outside the International Space Station on Tuesday, Aug. 24, for a spacewalk to install a support bracket in preparation for future installation of the orbiting laboratory's third new solar array. NASA will discuss the upcoming spacewalk during a news conference at 1800z (2 p.m. EDT) Monday, Aug. 23. Live coverage of the news conference and spacewalk will air on NASA Television, the agency's website, and the NASA app. [Amateurs should be aware that all amateur radio transmissions are powered off during spacewalks.] (ANS thanks NASA for the above information.)

+ The Ingenuity helicopter on Mars has now completed its 12th flight, where it acted as a scout, looking ahead for dangerous terrain for its partner in crime, the Perseverance rover. The 4-pound autonomous rotocraft climbed over almost 10 meters (33 ft) high, and traveled a total of 450 meters (1,476 ft) in 169 seconds. It flew over the over an area dubbed the 'South Seitha' region of Mars, where Perseverance will explore. (ANS thanks Universe Today for the above information.)

+ Scientists have spotted a previously unrecognized feature of our Milky Way galaxy: A contingent of young stars and star-forming gas clouds is sticking out of one of the Milky Way's spiral arms like a splinter poking out from a plank of wood. Stretching some 3,000 light-years, this is the first major structure identified with an orientation so dramatically different than the arm's. (ANS thanks Space Daily for the above information.)

+ NASA is calling on all sixth through 12th-grade educators and students to submit experiments for possible suborbital flights as a way of gaining firsthand experience with the design and testing process used by NASA researchers. The NASA TechRise Student Challenge invites students to

design, build, and launch experiments on suborbital rockets and high-altitude balloons. Each winning team will receive \$1,500 to build their experiment and an assigned spot to test it on a NASA-sponsored suborbital flight. For details, see <https://www.futureengineers.org/nasatechrise> (ANS thanks NASA for the above information.)

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Join AMSAT today at <https://launch.amsat.org/>

In addition to regular membership, AMSAT offers membership to:

- \* Societies (a recognized group, clubs or organization).
- \* Primary and secondary school students are eligible for membership at one-half the standard yearly rate.
- \* Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status.
- \* Memberships are available for annual and lifetime terms.

Contact info [at] [amsat.org](https://amsat.org) for additional membership information.

73 and remember to help Keep Amateur Radio in Space!

This week's ANS Editor, Mark Johns, K0JM  
k0jm at [amsat dot org](https://amsat.org)